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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/805,765	03/22/2004	Michael Platte	2924	1253

7590 04/18/2006

STRIKER, STRIKER & STENBY
103 East Neck Road
Huntington, NY 11743

EXAMINER

ABOAGYE, MICHAEL

ART UNIT	PAPER NUMBER
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1725

DATE MAILED: 04/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/805,765	PLATTE ET AL.	
	Examiner	Art Unit	
	Michael Aboagye	1725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 15-17 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Vogt (US Patent no. 6,414,260).

Vogt discloses a holding device for holding electrodes for resistance welding, comprising: an electrode arm, a connecting element (6) for connecting and/or fixing an electrode with an electrode arm of a welding apparatus; said connecting element comprising: a base body and a sensor (48) selected from the group consisting of a sensor for introducing and receiving ultrasound waves into an electrode; said sensor arranged in a recess on a base body of the connecting element and mounted in the connecting element such that it is in contact with the end side of the electrode. Note also that the sensor is considered as being cylindrical in shape (Fig.1 and 2, column 3, line 58 – column 4, lines 1- 29 and column 5, lines 1-17); said holding device further comprising a second electrode arm with a second connecting element, formed so that a sensor for introducing ultrasound waves into an electrode is arranged in one of said

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connecting elements and a sensor for receiving ultrasound waves is arranged in another of said connecting elements (column 3, lines 27 – 57).

Vogt shows a holding device wherein the electrode arm has a diameter, which is greater than a diameter of the electrode, said electrode arm being provided at an end side with an opening for receiving a portion of the electrode (Fig.1; column 5, lines 1- 24).

3. Claims 1, 4, 5, 7-10 and 15- 21 are rejected under 35 U.S.C. 102(b) as anticipated by or alternatively under 35 U.S.C. 102(a) applicants' admitted prior art (AAPA).

Regarding claim 1, AAPA (figures 1-4) discloses the claimed features: a connecting element for connecting and/or fixing an electrode with an electrode arm of a welding apparatus, comprising a base body; and a sensor selected from the group consisting of a sensor for introducing ultrasound waves into an electrode, a sensor for receiving ultrasound waves or both, wherein the connecting element is formed as a clamping element which is connectable (by screws 51,52, figure 4) with the electrode arm "15" so that it fixes the electrode in a clamping seat (note, the electrode arm has a surface to receive the electrode during clamping, attention is further drawn to the applicants' specification page 22, line 5-10, which discloses the corresponding features between Figure 4 (prior art) and figure 5).

Regarding claims 4 and 5; note that AAPA (figure 1-3) discloses the claimed features: a connecting element "12' With a sensor "13" arranged on the base body in a

recess of said base body, the connecting element is composed of a material which has same or substantially similar acoustic properties as a material of the electrode, and a sensor selected from the group consisting of a sensor for introducing ultrasound waves into an electrode, a sensor for receiving ultrasound waves, and both.

Regarding claims 7-9, AAPA (figure 4) discloses the claimed features: a clamping element has an inner contour which corresponds to an outer contour of the electrode; and further comprising screw means for connecting the clamping element with a counter plate "17" which is formed as a collar-shaped extension of said electrode arm; wherein said counter plate is formed as one piece with said electrode arm; (specification, page 19 – 22, and Figures 1 and 4).

Regarding claim 10, note said ultrasound device disclosed by AAPA has a piezo element to generate the ultrasound waves as inherent in ultrasonic sensors.

AAPA shows a holding device for holding electrodes for resistance welding, comprising an electrode arm; and a connecting element that is connected with said electrode arm, said connecting element including a base body,

Regarding claims 15- 21, AAPA shows a holding further comprising a second electrode arm with a second connecting element, formed so that a sensor for introducing ultrasound waves into an electrode is arranged in one of said connecting elements and a sensor for receiving ultrasound waves is arranged in another of said connecting elements, wherein said electrode arm has a diameter which is greater than a diameter of the electrode, said electrode arm being provided at an end side with an opening for receiving a portion of the electrode, said connecting element is connectable

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for clamping of the electrode by screw means, wherein said connecting element has an opening, said sensor being cylinder-shaped and mounted in said opening of said connecting element, and also being in contact with an end side of said electrode (specification, page 19 – 22, and Fig.1- 4).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2, 3, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicants' admitted prior art (AAPA) in view of Waschkie (US Patent no. 5,920,014).

Applicants' admitted prior art (AAPA) discloses all the elements of claim 1. AAPA teaches a sensor for introducing and/ or receiving of ultrasound waves into an electrode but not specifically that the wave group consists of transverse ultrasound waves, shear waves or torsion waves.

However Waschkie teaches a process for assessing welding joints using sensors wherein said sensor is a sensor for introducing and/or receiving of ultrasound waves selected from the group consisting of transverse ultrasound waves, shear waves and torsion waves, having frequency smaller than 1Mhz. Waschkie further teaches that

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the ultrasound waves are introduced into the electrode in an orientation selected from the group consisting of an orientation substantially parallel to a longitudinal axis of the electrode and an angle smaller than 90° to a Longitudinal axis of the electrode. (Column 5, line 61- column 7, line 63).

It would have been obvious to one of ordinary skill in the art at the time invention was made to utilize shear waves and in particular transverse waves or torsion waves in AAPA connecting element in view of Waschkies to achieve good propagation behavior of the sound waves in the electrode for sonic inspection (Waschkies; column 7, lines 24-49).

6. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicants' admitted prior art (AAPA) in view of Vogt (US Patent no. 6,414,260). Applicants' admitted prior art (AAPA) discloses all the elements of claim 1 but does not expressly teach providing the sensor with a sound –influencing layer such as a damping layer, a reflecting layer, and both.

However Vogt teaches a development which provides the sensor with a sound influencing medium in a way as to avoid undesirable reflection or damping of the ultrasonic waves (column 3, line 28 – column 4, line 52).

It would have been obvious to one of ordinary skill in the art at the time the applicants' invention was made to have provided both damping and reflecting influencing medium in the connecting element of AAPA as taught by Vogt in order to avoid undesirable reflection or damping of the ultrasonic waves (column 3, line 28 – column 4, line 52).

Response to Arguments

7. The examiner acknowledges the applicants' request for continued examination (RCE) and amendments received by the USPTO on April 05, 2006. Claims 1-5 and 7-21 remain under consideration in the application.

8. Applicants' argument filed April 05, 2006 have been fully considered but they are not persuasive. The examiner respectfully disagrees with the applicants' characterization of Vogt electrode holder (connecting element "6") as an electrode arm. Figure 1 distinctly shows three major features namely: the electrode, the electrode holder and the third segment (the electrode arm), these three segments are related such that the electrode holder (connecting element) connects the electrode shaft to the electrode arm and having the ultrasonic sensor disposed in a recess of the base body of the connecting element (see column 3, lines 27-39 and column 4, lines 1-6).

AAPA shows connecting element "16" formed as a clamp which is connectable with the electrode arm so that it fixes the electrode in a clamping seat (see AAPA figure 4); AAPA further shows an ultrasound sensor disposed in a recess of a attachment element of the electrode shaft (see AAPA figure 1).

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Wind (US 6,515,251), Cecil (US 4,542,277) and Arndt et al. (US Pub. No. 2004/0079156) are also cited in PTO-892.


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10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Aboagye whose telephone number is 571-272-8165. The examiner can normally be reached on Mon - Fri 8:30am - 5pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AM
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Michael Aboagye
Assistant Examiner
Art unit 1725

04/17/2006

Len Tran
primary Examiner
Au 1725

9/17/06